

CLAIMS

1. A system for monitoring wavelength division multiplexed channels in an optical signal, the system comprising:

5 a phased-array optical wavelength demultiplexer (phasar) device including an input port for receiving an input optical signal, and an output port for transmitting an optical signal, the input and output ports being connected by a waveguide array;

10 phase control means connected to receive a control signal and operable to vary the effective optical length of each waveguide in the array, such that the phase of optical signals passing through respective waveguides also vary in dependence upon that received control signal;

15 detector means connected to receive the output optical signal from the phasar device, and operable to produce a detector signal relating to that output optical signal; and

20 control means connected to receive the detector signal, and operable to supply the control signal to the phase control means, such that a signal from a desired one of the multiplexed channels is output from the phasar device to the detector means.

25 2. A system as claimed in claim 1, wherein the phase control means are provided by a heater device which acts on the waveguides in the waveguide array, thereby to vary the temperature of the waveguides.

30 ~~3. A system as claimed in claim 1, wherein the phase control means are operable to cause an acousto-optic effect in the waveguides of the array.~~

Sup a1 4. A system as claimed in claim 1, wherein the phase control means are operable to cause an electro-optic effect in the waveguides of the array.

35 5. A system as claimed in claim 1, wherein the phase control means are operable to cause a magneto-

optic effect in the ~~waveguides~~ of the array.

*Sub a. 7* 6. A system as claimed in claim 1, wherein the phase control means are operable to cause a plasma effect in the waveguides of the array.

7. A system as claimed in claim 1, wherein the phasar device, phase control means and detector means are integrated on a single integrated device.

8. A system as claimed in claim 1, comprising compensation means for adjusting the control signal on the basis of the temperature of the phasar device.

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